AD-A131 952 19320B MLRS MISSILE NUMBERS FV3-14 FV3-08 FV3-26 FV3-27 1/1
FV3-28 FV3-29 ROU..(U) ARMY ELECTRONICS RESEARCH AND
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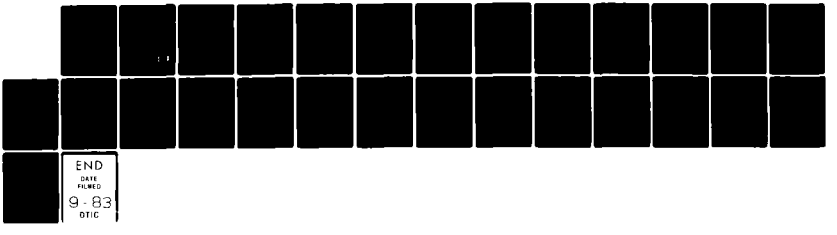

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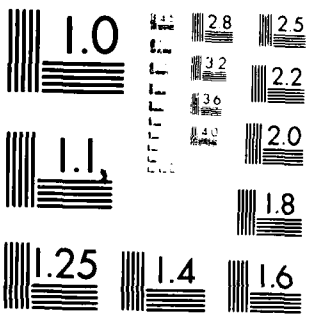

(12)

METEOROLOGICAL DATA REPORT

19320B MLRS
Missile Numbers FV3-14, FV3-08,
FV3-26, FV3-27, FV3-28, FV3-29
Round Number 467/AT2-37 thru 472/AT2-42
14 July 83

by

DONALD C. KELLER
Program Support Coordinator
Phone Number (505) 679-9568
AVN Number 349-9568

ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

ECOM
UNITED STATES ARMY ELECTRONICS COMMAND

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

Meteorological data gathered for the launching of the 19320B MLRS, Missile Number FV3-14, FV3-08, FV3-26, FV3-27, FV3-28, FV3-29, Round Number 467/AT2-37 thru 472/AT2-42 are presented in tabular form.

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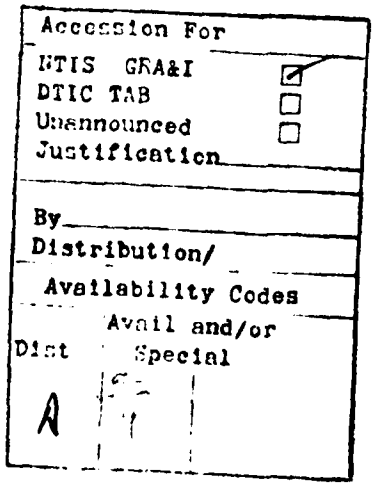


CONTENTS

INTRODUCTION

19320B MLRS, Missile Numbers FV3-14, FV3-08, Fv3-26, FV3-27, FV3-28, and FV3-29, Round Numbers 467/AT2-37 thru 472/AT2-42, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 0937:47, 0937:57, 0938:02, 0938:07 and 0938:16 MDT, 14 JUL 83. The scheduled launch times were 0930 MDT with a 4.5 second separation.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. (1) Standard surface observations to include pressure, temperature (^{o}C), relative humidity, dew point (^{o}C), density (gm/m^3), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

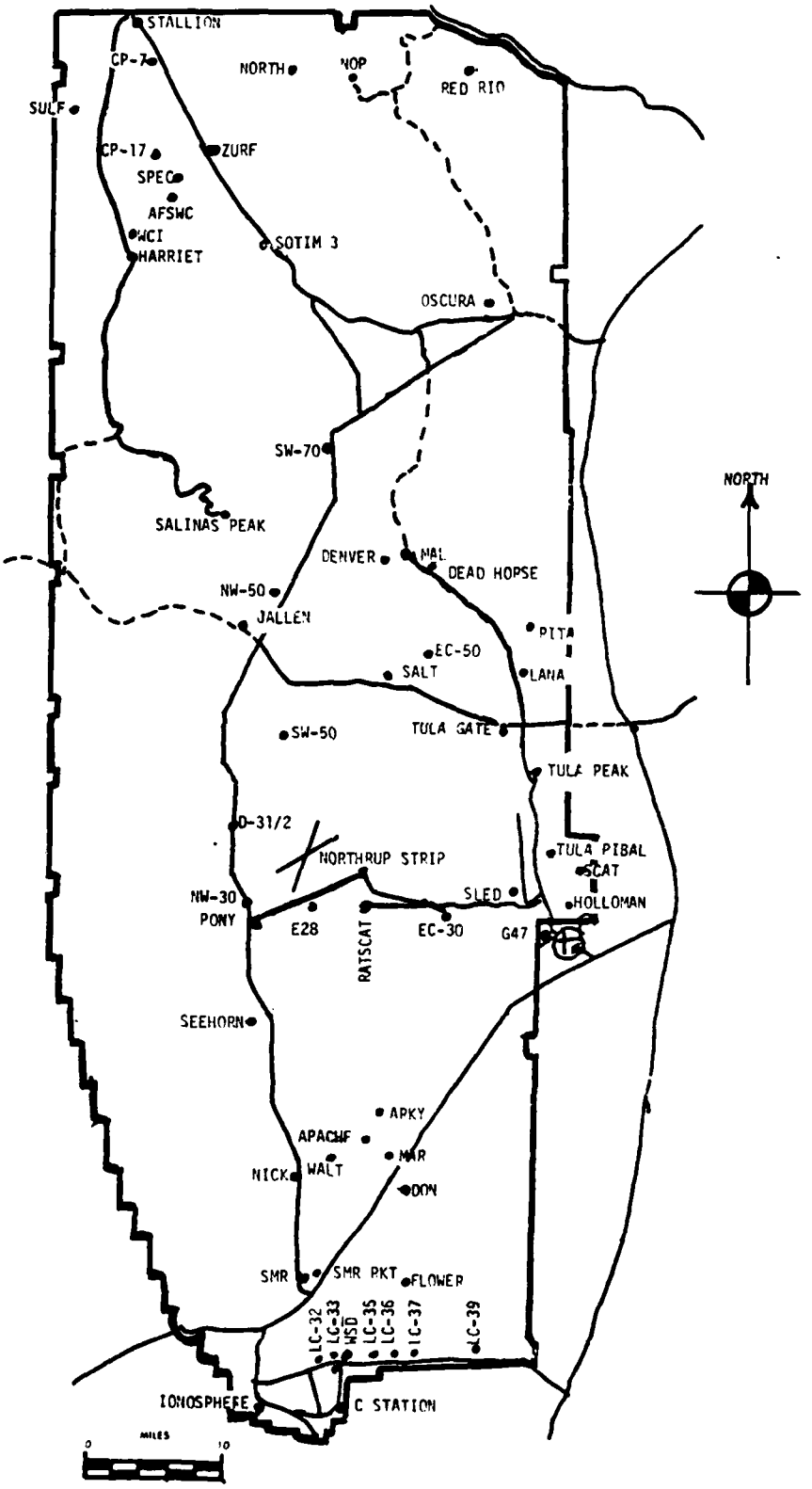
(1) Low level wind data were obtained from pilot-balloon observations at:

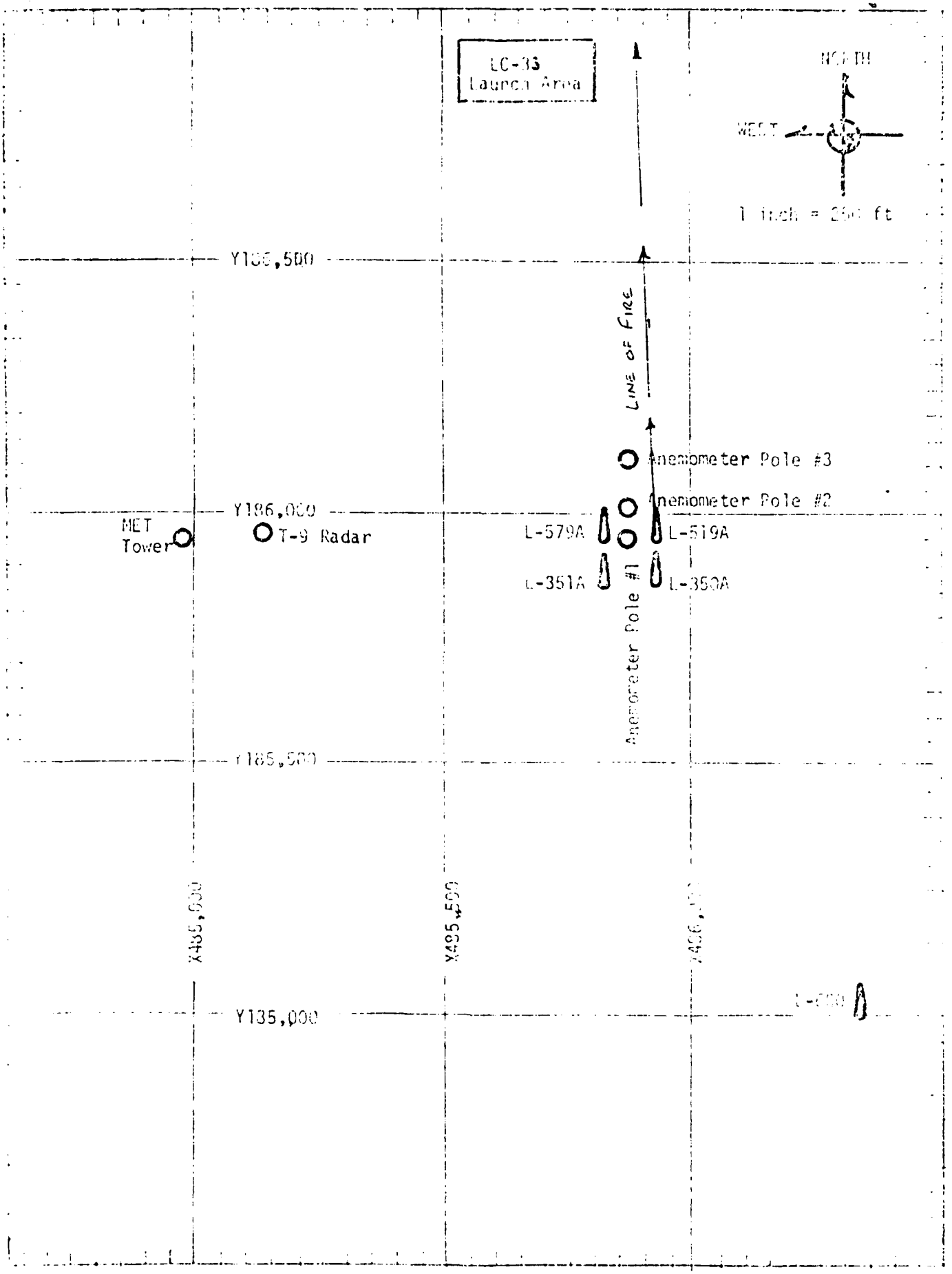
SITE AND ALTITUDE	
LC-33	2 Km
DON	2 Km

(2) Air structure data (rawinsonde) were collected at the following Met Sites.

SITE AND TIME	
LC-37	0700 MDT
WSD	0825 MDT
WSD	0938 MDT

WSMR METEOROLOGICAL SITES




LC-39
Launch Area
NORTH
WEST
1 inch = 2[illegible] ft
Y186,500
LINE OF FIRE
Anemometer Pole #3
Anemometer Pole #2
Y186,000
MET
Tower
T-9 Radar
L-579A
L-519A
L-351A
L-350A
Anemometer Pole #1
Y185,500
X485,000
X495,500
Y135,000

PROJECT SURFACE OBSERVATION

TABLE 1 STATION LC-33 E and A

DATE 14 (DAY) July (MONTH) 83 (YEAR) X= 484,982.73 Y= 485,957.73 H= 3995.00

TIME "D T	PRESSURE mbs	TEMPERATURE °F	TEMPERATURE °C	DEW POINT °F	DEW POINT °C	RELATIVE HUMIDITY %	DENSITY gm/m³	WIND DIRECTION degs Tn	WIND SPEED kts	WIND CHARACTER kts	VISIBILITY
0938	881.9		25.3		13.8	49		335	03		20

OBSTRUCTIONS TO VISIBILITY	CLOUDS 1st LAYER AMT	1st LAYER TYPE	1st LAYER HGT	2nd LAYER AMT	2nd LAYER TYPE	2nd LAYER HGT	3rd LAYER AMT	3rd LAYER TYPE	3rd LAYER HGT	REMARKS
										CLEAR

PSYCHROMETRIC COMPUTATION

TIME: MDT	0938		
DRY BULB TEMP.	25.3		
WET BULB TEMP.	17.6		
WET BULB DEPR.	7.7		
DEW POINT	13.8		
RELATIVE HUMID.	49		

TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1 X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL			POLE #2 X485,874.29 Y186.012.00 H4033.57 53.0 ft. AGL			POLE #3 X485,877.29 Y186,116.06 H4063.92 83.6 ft. AGL		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
T -30		CALM	T-30	346	CALM	T-30	335	03
T -20		CALM	T-20	346	CALM	T-20	001	05
T -10		CALM	T-10	346	CALM	T-10	001	05
T 0.0		CALM	T0.0	346	CALM	T0.0	007	04
T +10		03	T+10	343	CALM	T+10	001	05

TABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 62 FEET X484,982.64, Y185.057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
T -30	301	01	T-30		CALM
T -20	301	01	T-20		CALM
T -10	312	02	T-10		CALM
T 0.0	333	03	T0.0	347	04
T +10	336	04	T+10	351	04

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
T -30	350	CALM	T-30	348	04
T -20	354	CALM	T-20	349	06
T -10	344	03	T-10	342	05
T 0.0	348	04	T0.0	005	06
T +10	007	04	T+10	008	04

TABLE 4

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 14 JUL 83

SITE: LC-33
TIME: 0938 MDT
WSTM COORDINATES:
X= 484,837.34
Y= 184,124.44
H= 3,975.57

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	335	03
150	037	03
210	056	04
270	075	03
330	098	03
390	119	03
500	164	04
650	185	07
800	191	09
950	199	10
1150	206	12
1350	220	11
1550	254	11
1750	263	12
2000	269	16

Data obtained from a Double Theodite tracked pilot-balloon observation.

SITE: DON
TIME 0938 MDT
WSTM COORDINATES:
X= 511,988.37
Y= 247,396.36
H= 3,996.83

LAYER MIDPOI' METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE		CALM
150		CALM
210		CALM
270		CALM
330	151	01
390	154	02
500	154	05
650	180	05
800	184	05
950	197	04
1150	209	05
1350	230	06
1550	254	06
1750	283	05
2000	294	07

Data obtained from a RAPTS-T-9 Radar tracked pilot-balloon observation.

TABLE 5

AIMING AND T-TIME COMPUTER MET MESSAGES

14 JULY 1983

LC-37 0790 MDT		WSD 0938 MDT	
METCM1324063		METCM1324064	
141300124879		141560122882	
00000000	29120879	00640002	29920882
01281004	29490869	01020005	29790872
02208012	29590844	02171004	29570847
03319009	29360806	03336008	29360809
04369013	29060760	04393010	29040763
05449011	28710717	05489012	28730719
06518014	28310675	06531016	28360678
07556016	27900635	07579011	27990638
08595014	27490598	08594011	27560600
09636012	27150562	09610011	27160564
10614015	26690527	10627014	26730529
11598012	26490494	11605017	26450496
12556010	26030448	12578009	26070450

STATION ALTITUDE 4051.37 FEET MSL
14 JULY 83 0700 MDT
ASCENSION NO. 102

SIGNIFICANT LEVEL DATA
19501&0102
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

TABLE 6

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT
879.1	4051.4	16.0	12.9	82.0
877.0	4119.0	21.8	12.9	57.0
865.2	4505.0	21.6	12.2	55.0
850.0	5011.1	21.4	11.7	54.0
751.6	8481.6	15.5	6.2	54.0
700.0	10851.7	11.3	2.9	56.0
617.0	13866.7	2.9	-2.4	68.0
596.0	15056.0	.4	-5.8	63.0
581.6	15835.6	-1.0	-6.9	64.0
543.0	17222.6	-5.4	-10.9	65.0
525.9	18046.9	-6.8	-14.3	55.0
512.6	18703.3	-8.2	-14.6	60.0
500.1	19378.4	-8.0	-19.2	40.0
500.0	19135.6	-8.3	-19.7	39.0
500.0	19339.0	-8.6	-15.8	56.0
492.6	19719.7	-8.2	-19.1	41.0
486.2	20105.8	-9.0	-21.3	36.0
471.6	20827.9	-10.6	-17.6	56.0
463.6	21260.4	-11.5	-18.9	54.0
455.4	21710.1	-12.3	-18.4	60.0
447.6	22144.2	-12.9	-22.8	43.0
432.4	23007.3	-15.3	-23.8	48.0
402.6	24350.5	-16.7	-28.8	34.0
400.0	24935.8	-17.7	-32.1	27.0

STATION ALTITUDE 9051.37 FEET MSL
14 JULY 83 0700 MDT
ASCENSION NO. 102

UPPER AIR DATA
19501B0102
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

TABLE 7

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
9051.4	879.1	16.0	12.9	82.0	1052.3	664.6	.0	.0	1.000302
9500.0	865.4	21.6	12.2	55.0	1016.4	670.9	147.0	2.5	1.000289
10000.0	850.3	21.4	11.7	54.0	999.5	670.7	147.0	5.2	1.000283
10500.0	835.4	20.6	10.9	54.0	984.9	669.7	147.0	8.0	1.000277
11000.0	820.7	19.7	10.2	54.0	970.6	668.6	147.8	10.6	1.000271
11500.0	806.3	18.9	9.4	54.0	956.6	667.6	169.2	9.7	1.000266
12000.0	792.1	18.0	8.6	54.0	942.7	666.5	189.9	10.3	1.000260
12500.0	778.2	17.2	7.8	54.0	929.0	665.5	199.6	11.4	1.000255
13000.0	764.5	16.3	7.0	54.0	915.5	664.5	208.3	12.2	1.000249
13500.0	751.1	15.5	6.2	54.0	902.3	663.4	219.1	11.8	1.000244
14000.0	737.7	14.4	5.4	54.5	889.6	662.1	230.6	11.5	1.000239
14500.0	724.5	13.3	4.5	55.0	877.1	660.8	243.9	11.2	1.000234
15000.0	711.5	12.3	3.6	55.5	864.8	659.6	255.9	11.2	1.000230
15500.0	698.8	11.2	2.8	56.2	852.7	658.2	266.5	11.5	1.000225
16000.0	686.0	10.0	2.1	57.9	840.8	656.8	279.4	12.3	1.000221
16500.0	673.4	8.7	1.3	59.7	829.1	655.3	291.6	13.8	1.000217
17000.0	661.1	7.5	.6	61.4	817.6	653.8	299.2	15.0	1.000213
17500.0	649.0	6.3	-.2	63.2	806.3	652.4	304.9	15.9	1.000209
18000.0	637.1	5.0	-1.0	64.9	795.2	650.9	309.4	16.1	1.000205
18500.0	625.5	3.8	-1.8	66.7	784.2	649.4	313.6	15.8	1.000201
19000.0	614.0	2.6	-2.8	67.4	773.2	647.9	319.6	15.2	1.000197
19500.0	602.5	1.6	-4.2	65.3	761.9	646.6	328.3	14.6	1.000192
20000.0	591.2	.5	-5.6	63.2	750.7	645.3	337.2	13.7	1.000188
20500.0	580.1	-1.2	-7.1	64.0	741.3	643.2	347.2	12.6	1.000184
21000.0	569.1	-2.4	-8.2	64.3	730.6	641.7	354.3	12.2	1.000180
21500.0	558.3	-3.6	-9.3	64.6	720.1	640.2	.0	12.1	1.000176
22000.0	547.7	-4.9	-10.4	64.9	709.7	638.7	355.8	13.5	1.000173
22500.0	537.2	-5.9	-12.6	61.6	699.0	637.5	351.5	14.8	1.000169
23000.0	526.9	-6.7	-14.1	55.6	687.9	636.4	345.4	15.1	1.000164
23500.0	516.7	-7.8	-14.5	58.5	677.3	635.1	341.2	14.9	1.000162
24000.0	506.7	-8.1	-19.4	39.5	665.4	634.5	339.5	13.7	1.000155
24500.0	496.9	-8.4	-17.0	49.7	653.1	634.2	336.7	12.5	1.000154
25000.0	487.2	-8.8	-20.7	37.4	641.4	633.7	332.5	11.3	1.000149
25500.0	477.7	-9.9	-19.0	46.9	631.4	632.5	324.2	10.1	1.000148
26000.0	468.4	-11.0	-18.1	55.2	621.6	631.2	311.4	9.2	1.000147
26500.0	459.2	-11.9	-18.6	57.2	611.7	630.0	306.3	9.6	1.000144
27000.0	450.2	-12.7	-21.2	48.6	601.6	629.0	305.5	10.3	1.000140
27500.0	441.3	-13.9	-23.2	45.1	592.5	627.5	312.6	10.9	1.000137
28000.0	432.5	-15.3	-23.6	48.0	583.9	625.8	319.1	11.7	1.000135
28500.0	423.9	-15.8	-25.5	42.9	573.4	625.2			1.000132

STATION ALTITUDE 4151.37 FEET MSL
19 JULY 83 0700 MDT
ASCENSION NO. 102

UPPER AIR DATA
1950180102
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

TABLE 7 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
24000.0	415.4	-16.3	-27.4	37.7	563.2	624.5			1.000129
24500.0	407.1	-17.0	-29.6	32.2	553.3	623.7			1.000126

STATION ALTITUDE 4051.37 FEET MSL
14 JULY 83 0700 MDT
ASCENSION NO. 102

MANDATORY LEVELS
19501B0102
I C-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

TABLE 8

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS
850.0	5007.	21.4	11.7	54.	147.0	5.3
800.0	6725.	18.5	9.0	54.	179.4	9.8
750.0	8533.	15.4	6.1	54.	219.9	11.8
700.0	10441.	11.3	2.9	56.	265.4	11.4
650.0	12457.	6.4	-.1	63.	304.5	15.8
600.0	14594.	1.3	-4.5	65.	330.2	14.5
550.0	16869.	-4.6	-10.2	65.	350.8	13.1
500.0	19312.	-8.6	-15.8	56.	338.0	12.9
450.0	21976.	-12.7	-21.3	48.	305.5	10.3
400.0	24894.	-17.7	-32.1	27.		

STATION ALTITUDE 3989.00 FEET MSL
14 JULY 83 0825 MDT
ASCENSION NO. 351

SIGNIFICANT LEVEL DATA
19500203S1
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 9

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	RELATIVE HUMIDITY PERCENT
881.9	3989.0	20.2	12.9	63.0
872.8	4283.4	20.0	11.7	59.0
859.9	4707.1	21.8	12.4	55.0
850.0	5037.1	20.7	10.8	53.0
768.3	7891.4	17.0	7.4	53.0
700.0	10476.2	11.1	2.7	56.0
661.5	12019.9	7.4	1.5	66.0
626.7	13735.5	4.3	-3.9	55.0
596.0	14817.4	1.4	-5.3	61.0
570.5	15969.9	-1.7	-5.9	73.0
562.0	16362.9	-2.1	-9.7	56.0
529.4	17913.2	-6.4	-13.1	59.0
500.0	19375.0	-9.3	-20.6	39.0

STATION ALTITUDE 3989.00 FEET MSL
14 JULY 63 0825 MDT
ASCENSION NO. 351

UPPER AIR DATA
19500203S1
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 10

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.0	881.9	20.2	12.9	63.0	1040.6	669.4	300.0	4.1	1.000298
4000.0	881.6	20.2	12.9	62.9	1040.2	669.4	299.8	4.0	1.000297
4500.0	866.2	20.9	12.1	57.0	1019.8	670.1	281.7	1.6	1.000289
5000.0	851.1	20.8	11.0	53.2	1002.7	669.9	168.4	1.4	1.000281
5500.0	836.2	20.1	10.2	53.0	987.7	669.0	144.4	3.7	1.000275
6000.0	821.5	19.5	9.6	53.0	972.7	668.2	158.0	4.7	1.000270
6500.0	807.1	18.8	9.0	53.0	957.8	667.5	186.5	5.4	1.000265
7000.0	792.9	18.2	8.4	53.0	943.2	666.7	200.8	7.4	1.000260
7500.0	779.0	17.5	7.8	53.0	928.9	665.9	208.3	9.6	1.000255
8000.0	765.3	16.8	7.2	53.1	915.0	665.0	219.2	10.3	1.000250
8500.0	751.6	15.6	6.3	53.7	902.4	663.6	229.4	10.9	1.000244
9000.0	738.2	14.5	5.4	54.3	890.0	662.2	241.9	10.7	1.000239
9500.0	725.1	13.3	4.5	54.9	877.8	660.8	254.9	10.7	1.000234
10000.0	712.1	12.2	3.5	55.4	865.8	659.5	268.5	10.8	1.000230
10500.0	699.4	11.0	2.7	56.2	853.9	658.1	280.2	11.6	1.000225
11000.0	686.7	9.8	2.3	59.4	842.0	656.7	289.3	12.9	1.000222
11500.0	674.2	8.6	1.9	62.6	830.2	655.3	296.7	13.0	1.000219
12000.0	662.0	7.4	1.5	65.9	818.7	653.9	304.1	12.9	1.000215
12500.0	649.8	6.5	-.0	62.9	806.5	652.7	315.4	11.3	1.000209
13000.0	637.9	5.6	-1.6	59.7	794.5	651.5	329.1	10.3	1.000204
13500.0	626.1	4.7	-3.2	56.5	782.7	650.4	339.5	9.9	1.000198
14000.0	614.6	3.6	-4.2	56.5	771.5	649.0	348.0	9.9	1.000194
14500.0	603.1	2.3	-4.9	59.2	760.9	647.4	350.7	10.2	1.000191
15000.0	591.9	.9	-5.3	62.9	750.4	645.8	352.7	10.6	1.000188
15500.0	580.8	-.4	-5.6	68.1	739.9	644.2	353.8	11.0	1.000185
16000.0	569.8	-1.7	-6.2	71.7	729.5	642.6	354.9	11.3	1.000182
16500.0	559.0	-2.5	-10.0	56.3	718.1	641.6	356.1	11.4	1.000175
17000.0	548.4	-3.9	-11.1	57.2	708.1	639.9	355.2	11.8	1.000171
17500.0	537.9	-5.3	-12.2	58.2	698.3	638.2	353.4	12.3	1.000168
18000.0	527.6	-6.6	-13.5	57.8	688.4	636.6			1.000165
18500.0	517.4	-7.6	-15.9	51.0	677.8	635.3			1.000160
19000.0	507.4	-8.6	-18.5	44.1	667.3	634.0			1.000156

STATION ALTITUDE 3989.00 FEET MSL
14 JULY 83 0825 MDT
ASCENSION NO. 551

MANDATORY LEVELS
19500203S1
WHITE SANDS

GEODETIC COORDINATES
32.4n043 LAT DEG
106.37033 LON DEG

TABLE 11

PRESSURE (EQPOTENTIAL		TEMPERATURE		REL.HUM.	WIND DATA	
		AIR	DEWPOINT	PERCENT	DIRECTION	SPEED
MILLIBARS	FEET	DEGREES CENTIGRADE			DEGREES(TN)	KNOTS
850.0	5033.	20.7	10.6	53.	164.4	1.5
800.0	6748.	18.5	8.7	53.	195.4	6.3
750.0	8558.	15.5	6.2	54.	230.9	10.8
700.0	10466.	11.1	2.7	56.	279.6	11.5
650.0	12481.	6.5	.0	63.	315.1	11.4
600.0	14622.	1.9	-5.0	60.	351.4	10.3
550.0	16904.	-3.7	-10.9	57.	355.4	11.7
500.0	19347.	-9.3	-20.6	39.		

STATION ALTITUDE 3989.00 FEET MSL
14 JULY 83 0938 MDT
ASCENSION NO. 352

SIGNIFICANT LEVEL DATA
19500203S2
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 12

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	DEWPOINT	RELATIVE HUMIDITY PERCENT
881.9	3989.0	23.2	13.4	54.0
875.0	4214.4	23.4	11.1	46.0
850.0	5042.5	20.9	11.0	53.0
829.2	5780.9	20.3	9.5	50.0
758.1	8270.9	15.7	6.2	53.0
700.0	10481.5	11.7	2.5	53.0
676.6	11413.4	9.3	1.9	60.0
622.1	13685.3	4.6	-4.1	53.0
586.8	15516.2	-.6	-4.8	73.0
559.9	16705.4	-2.8	-10.8	54.0
518.9	18439.0	-7.7	-13.5	63.0
505.3	19118.5	-8.0	-20.1	37.0
500.0	19387.7	-8.8	-16.6	53.0
488.9	19959.5	-9.3	-17.8	50.0
480.9	20378.9	-9.6	-27.8	21.0
463.8	21299.5	-11.5	-21.3	44.0
441.9	22511.3	-13.4	-30.5	22.0
426.9	23374.0	-14.6	-29.0	28.0
419.3	23821.5	-14.9	-34.4	17.0
400.0	24986.7	-18.4	-34.3	25.0
354.8	27893.8	-25.0	-37.5	30.0
319.6	30357.9	-32.2	-42.4	35.0
304.0	31925.3	-33.3	-47.6	22.0
250.0	35987.5	-39.7	-54.4	19.0
215.7	39255.6	-47.6		
200.0	40883.7	-50.9		
169.2	44022.1	-57.7		
150.0	46004.8	-61.7		
135.2	48580.1	-61.2		
120.9	50049.7	-67.0		
114.5	52354.7	-68.5		
107.5	53600.8	-69.0		
104.3	54195.4	-70.1		
101.1	54809.4	-68.5		
100.0	55025.4	-69.2		
98.8	55370.9	-69.4		
95.3	57089.1	-64.6		
78.0	62231.1	-60.8		
64.6	66210.6	-58.0		
54.6	69910.0	-60.0		

STATION ALTITUDE 3689.60 FEET MSL
14 JULY 83 0938 MDT
ASCENSION NO. 352

SIGNIFICANT LEVEL DATA
19500.0352
WHITE SANDS
TABLE 12 CON'T

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
50.0	69222.1	-55.0		
45.1	72849.7	-55.5		
30.0	80097.8	-49.1		
20.0	89615.3	-43.5		
14.6	96034.6	-42.8		
10.1	100260.9	-39.8		

STATION ALTITUDE 3989.00 FEET MSL
14 JULY 83 0938 MDT
ASCENSION NO. 352

UPPER AIR DATA
19500203S2
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 13

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.0	881.9	23.2	13.4	54.0	1029.9	672.9	360.0	1.9	1.000296
4000.0	881.6	23.2	13.3	53.6	1029.5	672.9	.3	1.9	1.000295
4500.0	860.3	22.5	11.1	48.4	1014.7	671.8	83.4	.5	1.000284
5000.0	851.3	21.0	11.0	52.6	1002.2	670.1	152.3	2.0	1.000281
5500.0	836.4	20.5	10.1	51.1	986.6	669.5	156.9	3.9	1.000274
6000.0	821.8	19.9	9.3	50.3	971.7	668.7	173.7	5.8	1.000268
6500.0	807.3	19.0	8.6	50.9	957.7	667.6	191.1	8.2	1.000263
7000.0	793.1	18.0	7.9	51.5	944.0	666.5	200.6	9.5	1.000258
7500.0	779.1	17.1	7.2	52.1	930.5	665.4	208.4	10.4	1.000253
8000.0	765.4	16.2	6.5	52.7	917.1	664.3	221.1	9.9	1.000248
8500.0	751.9	15.3	5.8	53.0	903.9	663.2	235.0	9.8	1.000243
9000.0	738.4	14.4	4.9	53.0	890.7	662.1	249.6	10.6	1.000238
9500.0	725.2	13.5	4.1	53.0	877.7	661.0	262.4	11.9	1.000233
10000.0	712.3	12.6	3.3	53.0	864.9	659.9	274.5	13.4	1.000229
10500.0	699.5	11.7	2.4	53.1	852.3	658.8	285.4	14.7	1.000224
11000.0	686.9	10.4	2.2	56.9	840.7	657.3	298.1	15.5	1.000221
11500.0	674.4	9.1	1.7	59.7	829.1	655.8	307.3	15.2	1.000218
12000.0	662.1	8.1	.4	58.2	817.2	654.5	315.9	13.7	1.000212
12500.0	650.0	7.1	-1.0	56.7	805.4	653.2	320.8	12.4	1.000207
13000.0	638.1	6.0	-2.3	55.1	793.8	651.9	325.0	11.3	1.000202
13500.0	626.4	5.0	-3.6	53.6	782.3	650.6	327.1	11.1	1.000197
14000.0	614.8	3.7	-4.1	56.4	771.4	649.1	329.6	10.9	1.000194
14500.0	603.3	2.3	-4.3	61.9	760.9	647.5	333.3	10.5	1.000192
15000.0	592.1	.9	-4.5	67.4	750.6	645.8	336.8	10.4	1.000189
15500.0	581.0	-.6	-4.8	72.9	740.5	644.1	340.0	10.5	1.000187
16000.0	570.0	-1.5	-7.2	65.2	729.3	642.9	342.7	10.7	1.000181
16500.0	559.3	-2.4	-9.7	57.3	718.2	641.6	345.3	11.0	1.000175
17000.0	548.6	-3.6	-11.2	55.5	707.8	640.1	348.2	11.9	1.000171
17500.0	538.1	-5.0	-12.0	58.1	698.0	638.4	350.1	12.9	1.000168
18000.0	527.8	-6.5	-12.8	60.7	688.3	636.7	349.7	14.5	1.000166
18500.0	517.7	-7.7	-14.0	60.7	678.4	635.2	347.8	16.0	1.000162
19000.0	507.6	-7.9	-18.7	41.5	666.1	634.6	343.6	17.3	1.000156
19500.0	497.8	-8.9	-16.8	52.4	655.4	633.7	341.5	17.2	1.000155
20000.0	488.1	-9.3	-18.5	47.2	643.8	633.1	340.7	16.0	1.000151
20500.0	478.6	-9.9	-26.5	24.0	632.9	632.3	343.3	12.9	1.000145
21000.0	469.2	-10.9	-22.8	36.6	622.8	631.2	347.0	9.8	1.000144
21500.0	460.0	-11.8	-22.6	40.3	612.8	630.0	343.1	8.2	1.000142
22000.0	451.0	-12.6	-26.1	31.3	602.6	629.0	329.0	7.8	1.000138
22500.0	442.1	-13.4	-30.4	22.2	592.6	628.0	311.1	8.8	1.000135
23000.0	433.3	-14.1	-29.6	25.4	582.4	627.2	301.3	10.8	1.000133

STATION ALTITUDE 3989.00 F T MSL
14 JULY 83 0938 MDT
ASCENSION NO. 352

UPPER AIR DATA
19500203S2
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 13 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
23500.0	424.7	-14.7	-30.3	24.9	572.2	626.5	295.4	13.0	1.000130
24000.0	416.3	-15.4	-34.3	17.9	562.5	625.5	294.5	13.9	1.000127
24500.0	408.0	-16.9	-34.2	20.5	554.5	623.7	294.3	14.6	1.000125
25000.0	399.8	-18.4	-34.3	23.0	546.6	621.9	295.9	14.7	1.000124
25500.0	391.6	-19.6	-34.6	24.2	537.8	620.5	298.0	15.0	1.000122
26000.0	383.6	-20.7	-35.3	25.4	529.2	619.1	301.5	15.5	1.000120
26500.0	375.8	-21.8	-35.6	26.6	520.8	617.7	303.5	15.6	1.000118
27000.0	368.1	-23.0	-36.4	27.8	512.5	616.3	303.6	15.1	1.000116
27500.0	360.6	-24.1	-37.0	29.1	504.3	614.9	302.9	14.6	1.000114
28000.0	353.2	-25.3	-37.7	30.2	496.3	613.4	301.0	14.1	1.000112
28500.0	345.8	-26.8	-39.6	31.2	488.8	611.6	298.0	13.3	1.000110
29000.0	338.5	-28.2	-39.6	32.2	481.4	609.7	293.4	12.2	1.000108
29500.0	331.4	-29.7	-40.7	33.3	474.2	607.9	290.4	11.6	1.000107
30000.0	324.5	-31.2	-41.7	34.3	467.0	606.1	290.7	11.6	1.000105
30500.0	317.6	-32.3	-42.9	33.7	459.4	604.6	294.8	13.2	1.000103
31000.0	310.9	-32.7	-44.5	29.3	450.3	604.2	302.2	17.8	1.000101
31500.0	304.2	-33.1	-46.3	24.9	441.4	603.7	305.3	23.2	1.000099
32000.0	297.7	-33.6	-47.9	21.9	432.8	603.0	305.5	29.8	1.000097
32500.0	291.3	-34.3	-48.7	21.5	424.8	602.1	303.5	34.9	1.000095
33000.0	285.0	-35.1	-49.5	21.2	417.0	601.1	299.8	38.4	1.000093
33500.0	278.8	-35.9	-50.3	20.8	409.3	600.1	296.7	41.2	1.000092
34000.0	272.7	-36.6	-51.1	20.4	401.7	599.1	294.0	43.6	1.000090
34500.0	266.8	-37.4	-51.9	20.1	394.3	598.2	293.0	45.3	1.000088
35000.0	261.1	-38.2	-52.7	19.7	387.0	597.2	292.6	46.8	1.000087
35500.0	255.4	-39.0	-53.6	19.4	379.9	596.2	292.5	47.0	1.000085
36000.0	249.9	-39.7	-54.4	18.9**	372.9	595.2	292.3	47.0	1.000083
36500.0	244.3	-40.9	-56.8	16.0**	366.5	593.7	293.3	46.8	1.000082
37000.0	238.8	-42.1	-59.4	13.1**	360.2	592.1	294.5	46.6	1.000080
37500.0	233.5	-43.4	-62.3	10.2**	354.0	590.6	295.0	46.6	1.000079
38000.0	228.3	-44.6	-65.7	7.3**	347.9	589.0	295.4	46.6	1.000078
38500.0	223.2	-45.8	-70.2	4.4**	341.9	587.4	294.1	46.5	1.000076
39000.0	218.2	-47.0	-78.1	1.5**	336.1	585.9	292.8	46.4	1.000075
39500.0	213.3	-48.1			330.1	584.4	291.5	46.2	1.000074
40000.0	208.4	-49.1			324.0	583.1	290.4	46.4	1.000072
40500.0	203.6	-50.1			318.1	581.8	289.8	47.4	1.000071
41000.0	198.9	-51.1			312.1	580.5	289.9	48.3	1.000070
41500.0	194.3	-52.1			306.2	579.2	290.7	49.1	1.000068
42000.0	189.8	-53.0			300.3	578.0	290.5	48.9	1.000067
42500.0	185.3	-54.0			294.6	576.7	290.0	48.3	1.000066
43000.0	181.0	-55.0			289.0	575.5	288.5	47.3	1.000064

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL
14 JULY 83 0938 MDT
ASCENSION NO. 352

UPPER AIR DATA
19500203S2
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 13 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
45500.0	176.7	-55.9			203.5	574.2	288.4	45.9	1.000063
46000.0	172.6	-56.9			278.1	572.9	289.2	44.2	1.000062
46500.0	168.6	-57.8			272.7	571.7	291.1	43.1	1.000061
47000.0	164.5	-58.6			267.2	570.6	293.1	42.5	1.000060
47500.0	160.6	-59.4			261.8	569.5	295.0	42.3	1.000059
48000.0	156.7	-60.2			256.4	568.4	299.5	41.2	1.000057
48500.0	153.0	-61.0			251.3	567.4	304.7	39.7	1.000056
49000.0	149.3	-61.7			245.9	566.5	308.3	36.1	1.000055
49500.0	145.7	-61.5			239.8	566.7	308.4	31.2	1.000053
50000.0	142.2	-61.4			233.9	566.9	302.0	25.1	1.000052
50500.0	138.7	-61.2			228.1	567.1	291.0	20.9	1.000051
51000.0	135.4	-62.2			223.6	565.8	275.6	18.8	1.000050
51500.0	132.0	-63.5			219.4	564.1	267.7	19.4	1.000049
52000.0	128.8	-64.7			215.3	562.5	264.5	20.9	1.000048
52500.0	125.7	-65.9			211.2	560.8	267.1	20.6	1.000047
53000.0	122.6	-67.1			207.2	559.3	271.6	19.9	1.000046
53500.0	119.5	-67.6			202.6	558.6	280.7	18.1	1.000045
54000.0	116.6	-68.1			198.1	557.8	290.8	17.1	1.000044
54500.0	113.7	-68.6			193.5	557.2	300.8	17.0	1.000043
55000.0	110.8	-68.8			188.9	557.0	305.0	17.6	1.000042
55500.0	108.1	-69.0			184.3	556.7	306.7	18.4	1.000041
56000.0	105.3	-69.7			180.4	555.6	310.4	19.1	1.000040
56500.0	102.7	-69.3			175.5	556.2	315.5	19.1	1.000039
57000.0	100.1	-69.1			171.0	556.5	324.9	17.6	1.000038
57500.0	97.6	-69.3			166.8	556.2	333.5	14.5	1.000037
58000.0	95.2	-68.9			162.3	556.8	345.8	10.6	1.000036
58500.0	92.8	-68.8			156.7	559.6	11.6	7.3	1.000035
59000.0	90.5	-64.8			151.4	562.3	46.1	6.7	1.000034
59500.0	88.3	-64.3			147.3	563.0	57.7	7.2	1.000033
60000.0	86.2	-63.9			143.5	563.5	53.6	6.7	1.000032
60500.0	84.1	-63.5			139.7	564.0	39.5	5.9	1.000031
61000.0	82.0	-63.2			136.1	564.5	44.2	5.6	1.000030
61500.0	80.1	-62.8			132.6	565.0	69.6	6.6	1.000030
62000.0	78.1	-62.4			129.1	565.5	95.3	11.5	1.000029
62500.0	76.2	-62.1			125.8	566.0	102.0	14.8	1.000028
63000.0	74.4	-61.7			122.5	566.5	105.0	17.0	1.000027
63500.0	72.6	-61.3			119.3	567.0	104.6	16.2	1.000027
64000.0	70.8	-61.0			116.2	567.5	103.5	16.2	1.000026
64500.0	69.1	-60.4			113.2	568.2	101.9	16.6	1.000025
65000.0	67.4	-59.7			110.1	569.2	98.7	15.7	1.000025

STATION ALTITUDE 3989.00 FEET MSL
14 JULY 83 0938 MDT
ASCENSION NO. 352

UPPER AIR DATA
1950020352
WHITE SANDS

GEODETIC COORDINATES
32.4[illegible]043 LAT DEG
106.37033 LON DEG

TABLE 13 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
63500.0	65.8	-59.0			107.1	570.1	95.8	15.2	1.000024
64000.0	64.3	-58.3			104.2	571.0	94.5	15.7	1.000023
64500.0	62.7	-58.3			101.7	571.0	94.7	16.9	1.000023
65000.0	61.2	-58.9			99.6	570.2	95.6	18.5	1.000022
65500.0	59.8	-59.5			97.5	569.4	102.1	19.0	1.000022
66000.0	58.3	-59.9			95.3	569.0	109.0	19.3	1.000021
66500.0	57.0	-59.1			92.7	570.0	118.7	18.2	1.000021
67000.0	55.6	-58.4			90.2	571.0	125.1	17.6	1.000020
67500.0	54.3	-57.6			87.8	572.0	127.0	17.0	1.000020
68000.0	53.0	-56.8			85.4	573.0	117.9	16.0	1.000019
68500.0	51.8	-56.1			83.1	574.0	102.6	15.9	1.000018
69000.0	50.5	-55.3			80.8	575.0	94.4	19.0	1.000018
69500.0	49.3	-55.0			78.8	575.4	90.0	22.4	1.000018
70000.0	48.2	-55.1			77.0	575.3	93.7	23.6	1.000017
70500.0	47.1	-55.2			75.2	575.2	95.9	24.1	1.000017
71000.0	46.0	-55.2			73.5	575.1	94.3	22.3	1.000016
71500.0	44.9	-55.3			71.8	575.0	90.9	20.8	1.000016
72000.0	43.8	-55.4			70.1	574.9	84.4	20.0	1.000016
72500.0	42.8	-55.5			68.5	574.8	80.0	19.8	1.000015
73000.0	41.8	-55.4			66.9	574.9	79.1	20.0	1.000015
73500.0	40.8	-54.9			65.2	575.5	79.5	20.4	1.000015
74000.0	39.9	-54.5			63.6	576.1	81.2	21.1	1.000014
74500.0	39.0	-54.0			62.0	576.7	80.4	21.1	1.000014
75000.0	38.1	-53.6			60.4	577.2	77.6	20.7	1.000013
75500.0	37.2	-53.2			58.9	577.8	77.3	22.8	1.000013
76000.0	36.3	-52.7			57.4	578.4	78.4	26.5	1.000013
76500.0	35.5	-52.3			56.0	579.0	79.5	28.7	1.000012
77000.0	34.7	-51.8			54.6	579.6	80.6	30.2	1.000012
77500.0	33.9	-51.4			53.2	580.1	81.9	29.7	1.000012
78000.0	33.1	-51.0			51.9	580.7	83.2	28.4	1.000012
78500.0	32.3	-50.5			50.6	581.3	84.8	28.7	1.000011
79000.0	31.6	-50.1			49.3	581.9	86.4	29.6	1.000011
79500.0	30.9	-49.6			48.1	582.4	85.7	29.4	1.000011
80000.0	30.1	-49.2			46.9	583.0	84.3	28.8	1.000010
80500.0	29.5	-48.8			45.7	583.5	84.6	28.5	1.000010
81000.0	28.8	-48.5			44.7	583.9	85.3	28.3	1.000010
81500.0	28.1	-48.2			43.6	584.3	88.0	28.9	1.000010
82000.0	27.5	-47.9			42.6	584.7	91.1	29.7	1.000009
82500.0	26.9	-47.6			41.5	585.1	92.0	29.8	1.000009
83000.0	26.3	-47.3			40.5	585.5	92.2	29.6	1.000009

STATION ALTITUDE 3,989.00 FT MSL
14 JULY 83 0938 MDT
ASCENSION NO. 352

UPPER AIR DATA
19500202352
WHITE SANDS

GEODETIC COORDINATES
32-41.043 LAT DEG
106-37033 LON DEG

TABLE 13 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
83500.0	25.7	-47.0			39.6	585.4	92.7	29.3	1.000009
84000.0	25.1	-46.6			38.6	586.3	93.3	29.0	1.000009
84500.0	24.6	-46.3			37.7	586.7	95.7	29.8	1.000008
85000.0	24.0	-46.0			36.8	587.1	93.6	31.0	1.000008
85500.0	23.5	-45.7			35.9	587.5	100.0	31.0	1.000008
86000.0	22.9	-45.4			35.1	587.9	100.7	30.5	1.000008
86500.0	22.4	-45.1			34.2	588.3	100.0	29.8	1.000008
87000.0	21.9	-44.8			33.4	588.7	97.2	28.6	1.000007
87500.0	21.4	-44.5			32.6	589.2	94.2	27.6	1.000007
88000.0	20.9	-44.1			31.9	589.6	89.6	26.7	1.000007
88500.0	20.5	-43.8			31.1	590.0	84.6	26.0	1.000007
89000.0	20.0	-43.5			30.4	590.4	80.7	25.9	1.000007
89500.0	19.6	-43.5			29.7	590.4	78.3	26.4	1.000007
90000.0	19.1	-43.4			29.0	590.5	75.9	26.9	1.000006
90500.0	18.7	-43.4			28.4	590.6	78.1	28.4	1.000006
91000.0	18.3	-43.3			27.7	590.6	80.1	30.0	1.000006
91500.0	17.9	-43.3			27.1	590.7	81.1	31.8	1.000006
92000.0	17.5	-43.2			26.5	590.8	81.5	33.9	1.000006
92500.0	17.1	-43.2			25.9	590.8	81.8	35.9	1.000006
93000.0	16.7	-43.1			25.3	590.9	83.3	36.2	1.000006
93500.0	16.4	-43.1			24.8	590.9	84.8	36.5	1.000006
94000.0	16.0	-43.0			24.2	591.0	85.7	36.8	1.000005
94500.0	15.6	-43.0			23.7	591.1	86.1	37.0	1.000005
95000.0	15.3	-42.9			23.1	591.1	86.2	37.2	1.000005
95500.0	15.0	-42.9			22.6	591.2	77.6	34.0	1.000005
96000.0	14.6	-42.8			22.1	591.3	68.0	31.6	1.000005
96500.0	14.3	-42.5			21.6	591.7	68.2	30.6	1.000005
97000.0	14.0	-42.1			21.1	592.2	78.5	30.9	1.000005
97500.0	13.7	-41.8			20.6	592.6	88.2	32.2	1.000005
98000.0	13.4	-41.4			20.1	593.1	94.9	38.5	1.000004
98500.0	13.1	-41.0			19.6	593.5	99.7	45.2	1.000004
99000.0	12.8	-40.7			19.2	594.0			1.000004
99500.0	12.5	-40.3			18.7	594.4			1.000004
100000.0	12.2	-40.0			18.3	594.9			1.000004

STATION ALTITUDE 3989.00 FEET MSL
14 JULY 83 0938 MDT
ASCENSION NO. 352

MANDATORY LEVELS
19500 20352
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 14

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS
850.0	5039.	20.9	11.0	53.	153.3	2.2
800.0	6756.	18.5	8.2	51.	190.3	9.1
750.0	8563.	15.2	5.7	53.	237.1	9.9
700.0	10471.	11.7	2.5	53.	284.8	14.7
650.0	12490.	7.1	-1.0	57.	320.8	12.4
600.0	14633.	1.9	-4.3	64.	334.4	10.4
550.0	16914.	-3.4	-11.1	55.	347.8	11.8
500.0	19360.	-8.8	-16.6	53.	341.7	17.5
450.0	22022.	-12.7	-26.5	30.	327.2	7.8
400.0	24944.	-18.4	-34.3	23.	295.9	14.7
350.0	28167.	-25.9	-38.1	31.	300.2	13.9
300.0	31761.	-33.3	-47.6	22.	305.5	27.3
250.0	35908.	-39.7	-54.4	19.	292.3	47.0
200.0	40788.	-50.9			289.7	48.1
175.0	43606.	-56.3			288.7	45.2
150.0	46776.	-61.7			307.4	36.9
125.0	50464.	-66.2			267.8	20.5
100.0	54853.	-69.2			324.9	17.6
80.0	59303.	-62.8			67.1	6.4
70.0	62015.	-60.8			102.9	16.4
60.0	65185.	-59.4			100.7	18.9
50.0	68959.	-55.0			92.2	20.3
40.0	73632.	-54.5			80.8	20.9
30.0	79751.	-49.1			84.2	28.7
25.0	83609.	-46.6			93.3	29.0
20.0	88591.	-43.5			80.9	25.9
15.0	94948.	-42.9			80.0	34.7


DATE
IL ME